

Title: EXPANDED BED AFFINITY-CHROMATOGRAPHY OF DEHYDROGENASES FROM BAKERS-YEAST USING DYE-LIGAND PERFLUOROPOLYMER SUPPORTS (Abstract Available)

Journal Subject Category: BIOTECHNOLOGY & APPLIED MICROBIOLOGY

Descriptors--Author Keywords: AFFINITY CHROMATOGRAPHY ; PERFLUOROPOLYMERS ; EXPANDED BED ; DYE-LIGAND ; DEHYDROGENASES

Identifiers--KeyWords Plus: HUMAN SERUM-ALBUMIN; CI REACTIVE BLUE-2; TRIAZINE DYES; PERFLUOROCARBON EMULSIONS; PROCESS SCALE; BLOOD-PLASMA; PURIFICATION; PROTEINS; ADSORBENTS; PERFORMANCE

14/8/12 (Item 1 from file: 71)

01325870 1999236498

Expanded bed protein A affinity chromatography of a recombinant humanized monoclonal antibody: Process development, operation, and comparison with a packed bed method

14/8/13 (Item 2 from file: 71)

01297104 2000010653

Expanded bed adsorption on supermacroporous cross-linked cellulose matrix

14/8/14 (Item 3 from file: 71)

01191486 1999161108

Direct purification of lysozyme from hen egg white using high density mixed mode adsorbent

14/8/15 (Item 4 from file: 71)

00478064 96172021

Polymer-shielded dye-ligand chromatography of lactate dehydrogenase from porcine muscle in an expanded bed system

PUBLICATION DATE: 19960000

14/8/16 (Item 5 from file: 71)

00415111 96108894

Large scale recovery and purification of periplasmic recombinant protein from E. coli using expanded bed adsorption chromatography followed by new ion exchange media

PUBLICATION DATE: 19960000

? ds

| Set | Items    | Description                              |
|-----|----------|--|
| S1  | 78554    | (KRINGLE? OR PLASMINOGEN) OR ANGIOSTATIN |
| S2  | 2713819  | PURIF? OR ISOLAT? OR SEPARAT?            |
| S3  | 61       | "EXPANDED BED"                           |
| S4  | 19678    | HYDROXYAPATITE                           |
| S5  | 2        | S3 AND S4                                |
| S6  | 9953     | S2 AND S1                                |
| S7  | 15       | S6 AND S4                                |
| S8  | 4850     | PASTORIS                                 |
| S9  | 102      | S1 AND S8                                |
| S10 | 50       | S9 AND S2                                |
| S11 | 31531237 | PY<=1999                                 |
| S12 | 34       | S11 AND S10                              |
| S13 | 34       | S3 AND S2                                |
| S14 | 16       | S13 AND S11                              |

Connecting via Winsock to Dialog

Logging in to Dialog

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DIALOG INFORMATION SERVICES

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File 410:Chronolog(R) 1981-2003/Jan

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Set Items Description

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Cost is in DialUnits

? b 410

05mar03 14:33:11 User268147 Session D51.3

\$0.00 0.081 DialUnits File410

\$0.00 Estimated cost File410

\$0.00 Estimated cost this search

\$0.00 Estimated total session cost 0.081 DialUnits

File 410:Chronolog(R) 1981-2003/Jan

(c) 2003 The Dialog Corporation

Set Items Description

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? set hi %%%;set hi %%%

HIGHLIGHT set on as "

HIGHLIGHT set on as "

? b 5, 34, 71, 434

05mar03 14:33:27 User268147 Session D51.4

\$0.00 0.072 DialUnits File410

\$0.00 Estimated cost File410

\$0.06 TELNET

\$0.06 Estimated cost this search

\$0.06 Estimated total session cost 0.153 DialUnits

SYSTEM:OS - DIALOG OneSearch

File 5:Biosis Previews(R) 1969-2003/Feb W4

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\*File 5: Alert feature enhanced for multiple files, duplicates removal, customized scheduling. See HELP ALERT.

File 34:SciSearch(R) Cited Ref Sci 1990-2003/Feb W4

(c) 2003 Inst for Sci Info

\*File 34: Alert feature enhanced for multiple files, duplicates removal, customized scheduling. See HELP ALERT.

File 71:ELSEVIER BIOBASE 1994-2003/Mar W1

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File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec

(c) 1998 Inst for Sci Info

Set Items Description

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? s (kringle? or plasminogen) or angiostatin

2763 KRINGLE?

77017 PLASMINOGEN

1138 ANGIOSTATIN

S1 78554 (KRINGLE? OR PLASMINOGEN) OR ANGIOSTATIN

? s purif? or isolat? or separat?

Processing

626188 PURIF?

1524695 ISOLAT?

833520 SEPARAT?

S2 2713819 PURIF? OR ISOLAT? OR SEPARAT?

? s "expanded bed"

S3 61 "EXPANDED BED"

? s hydroxyapatite

S4 19678 HYDROXYAPATITE

? s s3 and s4

61 S3

19678 S4

S5 2 S3 AND S4

? type s5/full/all

5/9/1 (Item 1 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

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10083131 Genuine Article#: 483WL Number of References: 21

Title: Effects of adsorbent properties on zone spreading in expanded bed chromatography

Author(s): Yamamoto S; Okamoto A; Watler P

Corporate Source: Yamaguchi Univ, Dept Chem Engr, Ube/Yamaguchi

7558611/Japan/

Journal: BIOSEPARATION, 2001, V10, N1-3, P1-6

ISSN: 0923-179X Publication date: 20010000

Publisher: KLUWER ACADEMIC PUBL, SPUIBOULEVARD 50, PO BOX 17, 3300 AA DORDRECHT, NETHERLANDS

Language: English Document Type: ARTICLE

Geographic Location: Japan

Journal Subject Category: BIOCHEMICAL RESEARCH METHODS; BIOTECHNOLOGY & APPLIED MICROBIOLOGY

Abstract: The mixing performance as well as the adsorption performance in expanded bed chromatography (EBC) was investigated by using various types of adsorption media (average particle size = 100-700  $\mu\text{m}$ , density = 1100-1700  $\text{kg/m}^3$ ), base matrix = hydroxyapatite, styrene-divinylbenzene, cross-linked agarose). The scale down study with 0.8 cm diameter columns was also attempted. Pulse response curves were measured with vitamin B-12 as a tracer [Residence time distribution RTD experiments], and the HETP (height equivalent to a theoretical plate or plate height) values were calculated from the peak variance and the peak retention time. The HETP values for different types of packing media tested showed very similar values (0.5-1.0 cm), which did not depend on the flow-rate or the column diameter (0.8-2.6 cm). Dynamic binding capacity (DBC) values of lactic acid on a Dowex anion-exchange resin were determined from breakthrough curve (BTC) measurements for both EBC and fixed bed chromatography (FBC). The DBC values for EBC were similar to those for FBC. When the liquid feed contained insoluble particles (yeast cells) the degree of mixing increased. However, the contribution of the mixing to the total spreading of BTCs for EBC was usually small so that this increase in the mixing did not affect the adsorption performance or the DBC values significantly.

Descriptors--Author Keywords: dynamic binding capacity ; expanded bed ; fluidized bed ; HETP ; residence time distribution

Identifiers--KeyWord Plus(R): ADSORPTION; PERFORMANCE

Cited References:

\*PHARM BIOT, 1997, EXP BED ADS PRINC ME

ARNOLD FH, 1985, V30, P9, CHEM ENG J B

BATT BC, 1995, V5, P41, BIOSEPARATION

BRUCE LJ, 1999, V8, P69, BIOSEPARATION

CHASE HA, 1994, V12, P296, TRENDS BIOTECHNOL

CHASE HA, 1984, V297, P179, J CHROMATOGR

DRAGER NM, 1992, V597, P129, J CHROMATOGR

JANSON JC, 1982, V25, P43, ADV BIOCHEM ENG

KARAU A, 1997, V55, P54, BIOTECHNOL BIOENG

KARAU A, 1996, 1 INT C EXP BED ADS

KRISHNASWAMY PR, 1978, V56, P550, CAN J CHEM ENG

LAN JCW, 1999, V8, P43, BIOSEPARATION  
 LEVAN MD, 1997, PERRY'S CHEM ENG HDB  
 LEVENSPIELE O, 1972, CHEM REACTION ENG  
 MATTIASON B, 1999, V8, BIOSEPARATION  
 PAI A, 1999, V8, P131, BIOSEPARATION  
 THOMMES J, 1995, V48, P367, BIOTECHNOL BIOENG  
 VOUTE N, 1999, V8, P121, BIOSEPARATION  
 YAMAMOTO S, 1999, V8, P33, BIOSEPARATION  
 YAMAMOTO S, 1988, ION EXCHANGE CHROMAT  
 ZAFIRAKOS E, 1999, V8, P85, BIOSEPARATION

5/9/2 (Item 1 from file: 71)  
 DIALOG(R)File 71:ELSEVIER BIOBASE  
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01931028 2002012003  
 Effects of adsorbent properties on zone spreading in expanded bed  
 chromatography  
 Yamamoto S.; Okamoto A.; Watler P.  
 ADDRESS: S. Yamamoto, Department of Chemical Engineering, Yamaguchi  
 University, Tokiwadai, Ube 755-8611, Japan  
 EMAIL: shu-yama@po.cc.yamaguchi-u.ac.jp  
 Journal: Bioseparation, 10/1-3 (1-6), 2001, Netherlands  
 CODEN: BISPE  
 ISSN: 0923-179X  
 DOCUMENT TYPE: Article  
 LANGUAGES: English SUMMARY LANGUAGES: English  
 NO. OF REFERENCES: 21

The mixing performance as well as the adsorption performance in expanded  
 bed chromatography (EBC) was investigated by using various types of  
 adsorption media (average particle size = 100-700 µm, density = 1100-1700  
 kg/m<sup>3</sup> SUP3, base matrix = hydroxyapatite, styrene-divinylbenzene,  
 cross-linked agarose). The scale down study with 0.8 cm diameter columns  
 was also attempted. Pulse response curves were measured with vitamin B<sub>12</sub>  
 as a tracer [Residence time distribution RTD experiments], and the HETP  
 (height equivalent to a theoretical plate or plate height) values were  
 calculated from the peak variance and the peak retention time. The HETP  
 values for different types of packing media tested showed very similar  
 values (0.5-1.0 cm), which did not depend on the flow-rate or the column  
 diameter (0.8-2.6 cm). Dynamic binding capacity (DBC) values of lactic acid  
 on a Dowex anion-exchange resin were determined from breakthrough curve  
 (BTC) measurements for both EBC and fixed bed chromatography (FBC). The DBC  
 values for EBC were similar to those for FBC. When the liquid feed  
 contained insoluble particles (yeast cells) the degree of mixing increased.  
 However, the contribution of the mixing to the total spreading of BTCs for  
 EBC was usually small so that this increase in the mixing did not affect  
 the adsorption performance or the DBC values significantly.

DESCRIPTORS:  
 Dynamic binding capacity; Expanded bed; Fluidized bed; HETP;  
 Residence time distribution

CLASSIFICATION CODE AND DESCRIPTION:  
 85.1.8.1 - APPLIED MICROBIOLOGY AND BIOTECHNOLOGY / BIOTECHNOLOGY -  
 TECHNIQUES AND PROCEDURES / Downstream Processing / Chromatography  
 ? ds

| Set           | Items   | Description                              |
|---------------|---------|--|
| S1            | 78554   | (KRINGLE? OR PLASMINOGEN) OR ANGIOSTATIN |
| S2            | 2713819 | PURIF? OR ISOLAT? OR SEPARAT?            |
| S3            | 61      | "EXPANDED BED"                           |
| S4            | 19678   | HYDROXYAPATITE                           |
| S5            | 2       | S3 AND S4                                |
| ? s s2 and s1 |         |  |
|               | 2713819 | S2                                       |
|               | 78554   | S1                                       |
| S6            | 9953    | S2 AND S1                                |
| ? s s6 and s4 |         |  |

9953 S6  
19678 S4  
S7 15 S6 AND S4  
? type s7/full/all

7/9/1 (Item 1 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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12841210 BIOSIS NO.: 200100048359

Large-scale purification of recombinant human angiostatin.

AUTHOR: Shepard Scot R(a); Boucher Robert; Johnston Jeremy; Boerner Renee;  
Koch George; Madsen John W; Grella Davida; Sim B Kim Lee; Schrimsher  
Jeffrey L

AUTHOR ADDRESS: (a)Covance Biotechnology Services Inc., 3000 Weston  
Parkway, Cary, NC, 27513: scot.shepard@covance.com\*\*USA

JOURNAL: Protein Expression and Purification 20 (2):p216-227 November,  
2000

MEDIUM: print

ISSN: 1046-5928

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

SUMMARY LANGUAGE: English

ABSTRACT: A process for the purification of recombinant human  
angiostatin (rhAngiostatin), produced by *Pichia pastoris*  
fermentation operated at the 2000-L scale, is reported. rhAngiostatin was  
recovered and purified directly from crude fermentation broth by  
cation exchange expanded bed adsorption chromatography. Anion exchange  
chromatography, hydroxyapatite chromatography, and hydrophobic  
interaction chromatography were used for further purification.  
Full-length rhAngiostatin was separated from rhAngiostatin  
molecules fragmented by endoproteolysis. On average, 140 g of  
rhAngiostatin was produced per batch, with an overall yield of 59% (n =  
9). The purification process was completed in approximately 48 h  
and used only inexpensive and nontoxic raw materials. Methods  
development, process synthesis, and process scale-up data are presented  
and discussed.

DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Bioprocess  
Engineering; Methods and Techniques

BIOSYSTEMATIC NAMES: Ascomycetes--Fungi, Plantae

ORGANISMS: *Pichia pastoris* {yeast} (Ascomycetes)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): Fungi; Microorganisms;  
Nonvascular Plants; Plants

CHEMICALS & BIOCHEMICALS: recombinant human angiostatin--  
purification

METHODS & EQUIPMENT: SDS-PAGE {SDS-polyacrylamide gel electrophoresis}--  
analytical method, electrophoretic techniques; Western blot--detection  
method, detection/labeling techniques, gene mapping; anion exchange  
chromatography--column chromatography, purification method; bed  
absorption chromatography--column chromatography, purification  
method; cation exchange chromatography--column chromatography,  
purification method; large-scale purification--  
Isolation/Purification Techniques--CB, purification  
method; protein purification--Isolation/Purification  
Techniques--CB, purification method; reverse phase-HPLC--  
chromatographic techniques, purification method; yeast  
fermentation--Isolation/Purification Techniques--CB,  
purification method

CONCEPT CODES:

10060 Biochemical Studies-General

10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines

10064 Biochemical Studies-Proteins, Peptides and Amino Acids

39008 Food and Industrial Microbiology-General and Miscellaneous

51522 Plant Physiology, Biochemistry and Biophysics-Chemical  
Constituents

BIOSYSTEMATIC CODES:

15100 Ascomycetes

7/9/2 (Item 2 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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09238928 BIOSIS NO.: 199497247298

Expression and characterization of a chimeric bispecific antibody against  
fibrin and against urokinase-type plasminogen activator.

AUTHOR: Tada Hiroko; Kurokawa Tomofumi; Seita Takeshi; Watanabe Takeshi;  
Iwasa Susumu(a)

AUTHOR ADDRESS: (a)DDS Res. Lab., Pharmaceutical Res. Div., Takeda Chem.  
Industries Ltd., Jusohonmachi, Yodogawa-ku\*\*Japan

JOURNAL: Journal of Biotechnology 33 (2):p157-174 1994

ISSN: 0168-1656

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: We have produced a chimeric bispecific antibody that has dual  
specificity of human fibrin and urokinase-type plasminogen  
activator (uPA). Complementary DNAs for variable regions of both  
anti-fibrin and anti-u-PA antibodies were cloned from two murine  
hybridomas secreting respective antibodies using polymerase chain  
reaction (PCR) techniques, and joined to cDNAs for human constant regions  
to form chimeric antibody genes. Both of two expression vectors for  
chimeric anti-fibrin and chimeric anti-uPA antibodies were sequentially  
introduced into Chinese hamster ovary cells, and stable transfectants  
secreting the chimeric bispecific antibody were obtained. The highest  
producer transfectant (SULF/C2-30) secreted high level (about 40  $\mu$ g  
ml<sup>-1</sup>) of total chimeric IgG and about 2% of the IgG had the bispecific  
activity of binding with both antigens. The chimeric bispecific antibody  
was purified by a combination of affinity chromatographies  
employing antigen-coupled columns and hydroxyapatite  
high-performance liquid chromatography. The purified chimeric  
bispecific antibody significantly enhanced the thrombolytic potency of  
single chain u-PA in an in vitro clot lysis assay as well as the original  
murine bispecific antibody.

REGISTRY NUMBERS: 9039-53-6: UROKINASE

DESCRIPTORS:

MAJOR CONCEPTS: Biochemistry and Molecular Biophysics; Blood and  
Lymphatics (Transport and Circulation); Cell Biology; Enzymology  
(Biochemistry and Molecular Biophysics); Genetics; Metabolism; Methods  
and Techniques; Molecular Genetics (Biochemistry and Molecular  
Biophysics); Pharmacology

BIOSYSTEMATIC NAMES: Hominidae--Primates, Mammalia, Vertebrata, Chordata,  
Animalia; Mammalia-Unspecified--Mammalia, Vertebrata, Chordata,  
Animalia; Muridae--Rodentia, Mammalia, Vertebrata, Chordata, Animalia

ORGANISMS: human (Hominidae); mammal (Mammalia - Unspecified); mouse  
(Muridae)

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA): animals; chordates; humans;  
mammals; nonhuman mammals; nonhuman vertebrates; primates; rodents;  
vertebrates

CHEMICALS & BIOCHEMICALS: UROKINASE

MISCELLANEOUS TERMS: ANTIGENS; BIOTECHNOLOGY; COMPLEMENTARY DNA;  
GENETIC ENGINEERING; GENETICS; HIGH PERFORMANCE LIQUID CHROMATOGRAPHY;  
HYBRIDOMA; METHODS; PHARMACEUTICALS; PURIFICATION METHOD

CONCEPT CODES:

02506 Cytology and Cytochemistry-Animal  
03506 Genetics and Cytogenetics-Animal  
03508 Genetics and Cytogenetics-Human  
10052 Biochemical Methods-Nucleic Acids, Purines and Pyrimidines  
10054 Biochemical Methods-Proteins, Peptides and Amino Acids  
10062 Biochemical Studies-Nucleic Acids, Purines and Pyrimidines  
10064 Biochemical Studies-Proteins, Peptides and Amino Acids  
10068 Biochemical Studies-Carbohydrates  
10300 Replication, Transcription, Translation  
10502 Biophysics-General Biophysical Studies

10504 Biophysics-General Biophysical Techniques  
10804 Enzymes-Methods  
10806 Enzymes-Chemical and Physical  
10808 Enzymes-Physiological Studies  
13002 Metabolism-General Metabolism; Metabolic Pathways  
13004 Metabolism-Carbohydrates  
13012 Metabolism-Proteins, Peptides and Amino Acids  
15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph  
Studies  
22002 Pharmacology-General  
32500 Tissue Culture, Apparatus, Methods and Media  
BIOSYSTEMATIC CODES:  
86375 Muridae

7/9/3 (Item 3 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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03569966 BIOSIS NO.: 000073073047  
ISOLATION OF TISSUE PLASMINOGEN ACTIVATOR FROM SKIN LESIONS  
WITH ALLERGIC VASCULITIS  
AUTHOR: TOKI N; TSUSHIMA H; YAMASAKI M; YAMASAKI R; YAMURA T  
AUTHOR ADDRESS: DEP. OF DERMATOLOGY, HIROSHIMA UNIV. SCH. OF MED., KASUMI  
1-2-3, HIROSHIMA-734, JAPAN.  
JOURNAL: J INVEST DERMATOL 78 (1). 1982. 18-23. 1982  
FULL JOURNAL NAME: Journal of Investigative Dermatology  
CODEN: JIDEA  
RECORD TYPE: Abstract  
LANGUAGE: ENGLISH

ABSTRACT: A tissue plasminogen activator was extracted from human skin lesions with allergic vasculitis and purified by successive column chromatography on Sephadex G-200, DEAE-cellulose, Hydroxyapatite-cellulose and polyacrylamide gel electrophoresis. By these procedures, 160 .mu.g of enzyme with a specific activity of 843.8 IU/mg protein was obtained from 5 g of original skin. The purified material was homogeneous as ascertained by sodium dodecyl sulfate polyacrylamide gel electrophoresis and had an apparent MW of 110,000 as measured by gel filtration on Sephadex G-200. Its identity with human urokinase was investigated and was found to possess the same plasminogen activator activity as that of urokinase. It had high amidolytic activity, but only slight N-.alpha.-acetyl-glycyl-L-lysine methyl ester estrolytic activity. This tissue plasminogen activator was confirmed to be immunologically identical to human urokinase.

DESCRIPTORS: HUMAN N-ALPHA ACETYLGLYCYL-L LYSINE METHYL ESTER  
CHROMATOGRAPHY GEL ELECTROPHORESIS GEL FILTRATION URO KINASE MOLECULAR  
WEIGHT

CONCEPT CODES:

10808 Enzymes-Physiological Studies  
12508 Pathology, General and Miscellaneous-Inflammation and  
Inflammatory Disease  
14508 Cardiovascular System-Blood Vessel Pathology  
18506 Integumentary System-Pathology  
35500 Allergy  
01056 Microscopy Techniques-Histology and Histochemistry  
10050 Biochemical Methods-General  
10054 Biochemical Methods-Proteins, Peptides and Amino Acids  
10060 Biochemical Studies-General  
10064 Biochemical Studies-Proteins, Peptides and Amino Acids  
10504 Biophysics-General Biophysical Techniques  
10506 Biophysics-Molecular Properties and Macromolecules  
10804 Enzymes-Methods  
12100 Movement (1971- )  
15504 Urinary System and External Secretions-Physiology and  
Biochemistry

BIOSYSTEMATIC CODES:

86215 Hominidae

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):

Animals  
Chordates  
Vertebrates  
Mammals  
Primates  
Humans

7/9/4 (Item 4 from file: 5)  
DIALOG(R)File 5:Biosis Previews(R)  
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03307838 BIOSIS NO.: 000072035942  
ISOLATION AND PROPERTIES OF HUMAN VASCULAR PLASMINOGEN  
ACTIVATOR

AUTHOR: ALLEN R A; PEPPER D S  
AUTHOR ADDRESS: SCOTTISH NATIONAL BLOOD TRANSFUSION SERVICE, HEADQUARTERS  
UNIT LAB., 2 FORREST ROAD, EDINBURGH EH1 2QN, SCOTLAND.  
JOURNAL: THROMB HAEMOSTASIS 45 (1). 1981. 43-50. 1981  
FULL JOURNAL NAME: Thrombosis and Haemostasis  
CODEN: THHAD  
RECORD TYPE: Abstract  
LANGUAGE: ENGLISH

ABSTRACT: Improved methods for the isolation of human cadaveric endothelial vascular plasminogen activator [VPA] were developed. The enzyme was isolated as the native complex with soluble fibrin by a combination of polyethylene glycol precipitation and hydroxyapatite chromatography. The purified complex was then finally dissociated by affinity chromatography on lysine agarose. The dissociated enzyme was relatively unstable when bioassayed on fibrin plates; its activity against low MW chromogenic substrates was more stable. The enzymic activity was totally inhibited by DFP [diisopropylfluorophosphate], PMSF [phenylmethylsulfonylfluoride] or DTT [dithiothreitol] and was totally resistant to iodoacetamide or Trasylol, indicating that it was a serine protease but differing in certain respects from urokinase. The specific activity of the native enzyme is .gtoreq. 50,000 CTA U/mg protein, it has a MW of 56,600 and will reform biologically active complexes with soluble fibrin polymers prepared in vitro. Both SFP [soluble fibrin polymer] and various polylysine preparations stimulated the activation of plasminogen by VPA in a spectrophotometric assay based on the rate of plasmin generation assayed against the chromogenic substrate S-2251. Considerable loss of material from purified preparations occurs by adsorption. With the limited amount of material available from cadavers, a radioisotopic labeling method was sought using iodination or 3H-DFP labeling; neither approach was satisfactory. Comparison of VPA activity in cadaveric eluates and in venous occlusion plasma or following infusion of vasopressin analogs showed that all 3 activities behaved identically in the above purification steps. The affinity of VPA for insoluble fibrin was much higher than that of urokinase, or a human melanoma activator from tissue culture.

DESCRIPTORS: URO KINASE VASOPRESSIN TISSUE CULTURE HUMAN MELANOMA ACTIVATOR  
CONCEPT CODES:

10806 Enzymes-Chemical and Physical  
14504 Cardiovascular System-Physiology and Biochemistry  
15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph  
Studies  
24006 Neoplasms and Neoplastic Agents-Biochemistry  
06504 Radiation-Radiation and Isotope Techniques  
10064 Biochemical Studies-Proteins, Peptides and Amino Acids  
10504 Biophysics-General Biophysical Techniques  
10804 Enzymes-Methods  
12100 Movement (1971- )  
12510 Pathology, General and Miscellaneous-Necrosis (1971- )  
17004 Endocrine System-Adrenals  
17020 Endocrine System-Neuroendocrinology (1972- )  
24005 Neoplasms and Neoplastic Agents-Neoplastic Cell Lines  
32500 Tissue Culture, Apparatus, Methods and Media



32600 In Vitro Studies, Cellular and Subcellular

BIOSYSTEMATIC CODES:

86215 Hominidae

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):

Animals

Chordates

Vertebrates

Mammals

Primates

Humans

7/9/5 (Item 5 from file: 5)

DIALOG(R)File 5:Biosis Previews(R)

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03036729 BIOSIS NO.: 000070062347

PLASMINOGEN ACTIVATOR FROM PIG KIDNEY CELL CULTURES 3.

PURIFICATION AND CHARACTERIZATION

AUTHOR: BOBBITT J L; CLAVIN S A; HUTCHINS J F; ARNETT G C; HULL R N

AUTHOR ADDRESS: LILLY RES. LAB., INDIANAPOLIS, INDIANA 46206, USA

JOURNAL: THROMB RES 18 (3-4). 1980. 315-332. 1980

FULL JOURNAL NAME: Thrombosis Research

CODEN: THBRA

RECORD TYPE: Abstract

LANGUAGE: ENGLISH

ABSTRACT: Plasminogen activator in spent tissue culture medium from a continuous line of pig kidney cells was purified on a 25 l scale by combined adsorption on hydroxyapatite, ammonium sulfate precipitation, DEAE-cellulose and CM-cellulose chromatography and gel filtration. The final product had a specific activity of 70,000-120,000 units/mg and consisted of numerous immunologically similar species of different size and charge. Two major fractions were obtained by gel filtration. The principal fraction included enzymes of MW > 45,000. The other fraction included 30,000 and 24,000 dalton forms. The large forms could be degraded to smaller forms. The isoelectric points of the different species were in the range pH 6.8-7.2. Active site titrations gave 1.4 +/- 0.1 times. 1013 units/mol. The enzyme was similar to, but not identical with, human urokinase in specificity, inhibitor sensitivity and fibrinolytic activity. The 2 enzymes were immunologically different.

DESCRIPTORS: HUMAN URO KINASE FIBRINOLYSIS

CONCEPT CODES:

02506 Cytology and Cytochemistry-Animal

10806 Enzymes-Chemical and Physical

10808 Enzymes-Physiological Studies

15002 Blood, Blood-Forming Organs and Body Fluids-Blood and Lymph Studies

15504 Urinary System and External Secretions-Physiology and Biochemistry

32500 Tissue Culture, Apparatus, Methods and Media

10010 Comparative Biochemistry, General

10054 Biochemical Methods-Proteins, Peptides and Amino Acids

10060 Biochemical Studies-General

10064 Biochemical Studies-Proteins, Peptides and Amino Acids

10068 Biochemical Studies-Carbohydrates

10069 Biochemical Studies-Minerals

10502 Biophysics-General Biophysical Studies

10504 Biophysics-General Biophysical Techniques

10506 Biophysics-Molecular Properties and Macromolecules

10802 Enzymes-General and Comparative Studies; Coenzymes

12100 Movement (1971- )

13012 Metabolism-Proteins, Peptides and Amino Acids

32600 In Vitro Studies, Cellular and Subcellular

34502 Immunology and Immunochemistry-General; Methods

BIOSYSTEMATIC CODES:

85740 Suidae

86215 Hominidae

BIOSYSTEMATIC CLASSIFICATION (SUPER TAXA):

7/9/8 (Item 3 from file: 34)  
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci  
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06594799 Genuine Article#: ZD282 Number of References: 44  
Title: Proteolysis of insulin-like growth factor binding proteins by a  
novel 50-kilodalton metalloproteinase in human pregnancy serum  
Author(s): Kubler B; Cowell S; Zapf J; Bräulke T (REPRINT)  
Corporate Source: UNIV GOTTINGEN, INST BIOCHEM 2, GOSSLERSTR 12 D/D-37073  
GOTTINGEN//GERMANY/ (REPRINT); UNIV GOTTINGEN, INST BIOCHEM 2/D-37073  
GOTTINGEN//GERMANY/; STRANGEWAYS RES LAB/CAMBRIDGE CB1 4RN//ENGLAND/;  
UNIV ZURICH HOSP, DEPT MED, METAB UNIT/CH-8091 ZURICH//SWITZERLAND/  
Journal: ENDOCRINOLOGY, 1998, V139, N4 (APR), P1556-1563  
ISSN: 0013-7227 Publication date: 19980400  
Publisher: ENDOCRINE SOC, 4350 EAST WEST HIGHWAY SUITE 500, BETHESDA, MD  
20814-4110

Language: English Document Type: ARTICLE  
Geographic Location: GERMANY; ENGLAND; SWITZERLAND  
Subfile: CC LIFE--Current Contents, Life Sciences

Journal Subject Category: ENDOCRINOLOGY & METABOLISM

Abstract: Insulin-like growth factor binding proteins (IGFBP) proteases  
have been proposed to be involved in changes of serum IGFBP pattern  
during pregnancy. IGFBP-4 and -5 are degraded specifically by proteases  
in pregnancy serum in vitro, whereas IGFBP-3 proteolytic activity was  
also detected in nonpregnancy serum. To identify and characterize  
IGFBP proteases, human pregnancy serum was fractionated by size  
exclusion chromatography revealing IGFBP-4 protease activities in  
fractions coeluting with proteins of approximately 600-kDa and 50- to  
100-kDa molecular mass. In both fractions, a predominant 50-kDa  
gelatinase was found, suggesting that parts of the gelatinase activity  
might aggregate or are complexed with other proteins forming a higher  
molecular complex. Hydroxyapatite chromatography and  
chromatofocusing of the 50- to 100-kDa serum fraction showed that the  
IGFBP-4 protease and the 50-kDa gelatinase activity were copurified.  
When the 50-kDa gelatinase-containing band was excised from the  
polyacrylamide gel, it exhibited IGFBP-4 proteolytic activity,  
resulting in the formation of 17- and 10-kDa fragments. [I-125] IGFBP  
substrate zymography combined with fragment blotting showed that the  
1,10-phenanthroline-sensitive 50-kDa protease activity purified  
by chromatofocusing also cleaved IGFBP-3 and -5. Other proteases  
detected in pregnancy serum fractions with M<sub>r</sub> estimates of 79-, 30-,  
and 22-kDa degraded IGFBP-3 and -5 but not IGFBP-4. [I-125] IGFBP-5  
Substrate zymography revealed that the 30-kDa IGFBP protease was  
inhibited by serine protease inhibitors. Whereas 1,10-phenanthroline  
inhibited the IGFBP proteolytic activity in the solution assay, serine  
protease inhibitors failed to affect proteolysis, indicating the  
predominant contribution of the metalloproteinase to IGFBP proteolysis.  
Tissue inhibitors of matrix metalloproteinases-1 and -2 revealed weak  
or no inhibition of IGFBP-4 and -5 proteolytic activity, whereas a  
hydroxamic acid-based inhibitor, potentially inhibiting disintegrin  
metalloproteases, completely prevented the proteolysis of IGFBPs.  
Whereas no specific immunoreactivity of the 50-kDa protein with  
antimatrix metalloproteinase-1, -2, -3, -9, or -13 antibodies was  
observed, antidisintegrin domain-specific antibodies bound to the  
50-kDa gelatinase.

These studies provide the first direct biochemical evidence that  
human pregnancy serum contains a 50-kDa IGFBP protease with properties  
of a soluble disintegrin metalloproteinase that appears to be  
potentially involved in regulating IGF bioavailability for placental  
and fetal growth.

Identifiers--KeyWord Plus(R): C-TERMINAL DOMAIN; I IGF-I; MATRIX  
METALLOPROTEINASES; GELATINASE-A; PLASMINOGEN ACTIVATORS; HUMAN  
FIBROBLASTS; RAT PREGNANCY; COMPLEX; INHIBITORS; PROTEASE

Cited References:

ALLAN JA, 1991, V99, P789, J CELL SCI  
BANG P, 1997, V138, P3912, ENDOCRINOLOGY

BANG P, 1994, V78, P1119, J CLIN ENDOCR METAB  
 BANG P, 1994, V36, P528, PEDIATR RES  
 BAXTER RC, 1993, V4, P91, TRENDS ENDOCRIN MET  
 BLACK RA, 1996, V225, P400, BIOCHEM BIOPH RES CO  
 BLACK RA, 1977, V385, P729, NATURE  
 BLAT C, 1994, V93, P2286, J CLIN INVEST  
 CAMPBELL PG, 1992, V130, P1401, ENDOCRINOLOGY  
 CLAUSSEN M, 1994, V134, P1964, ENDOCRINOLOGY  
 COHEN P, 1992, V75, P1046, J CLIN ENDOCR METAB  
 DAVENPORT ML, 1990, V127, P1278, ENDOCRINOLOGY  
 DAVENPORT ML, 1992, V75, P590, J CLIN ENDOCR METAB  
 EMI M, 1993, V5, P151, NAT GENET  
 FIELDER PJ, 1992, V74, P743, J CLIN ENDOCR METAB  
 FOWLKES JL, 1994, V135, P2810, ENDOCRINOLOGY  
 FOWLKES JL, 1994, V269, P25742, J BIOL CHEM  
 GARGOSKY SE, 1991, V131, P491, J ENDOCRINOL  
 GEARING AJH, 1994, V370, P555, NATURE  
 GIUDICE LC, 1990, V71, P806, J CLIN ENDOCR METAB  
 HEMBRY RM, 1995, V54, P25, ANN RHEUM DIS  
 HEUSSEN C, 1980, V102, P196, ANAL BIOCHEM  
 HIPPS DS, 1991, V372, P287, BIOL CHEM H-S  
 HOSSENLOPP P, 1990, V71, P797, J CLIN ENDOCR METAB  
 HOWARD L, 1996, V317, P45, BIOCHEM J  
 JONES JI, 1995, V16, P3, ENDOCR REV  
 KIEFER MC, 1992, V267, P12692, J BIOL CHEM  
 KNAUPER V, 1996, V271, P17124, J BIOL CHEM  
 LALOU C, 1994, V135, P2318, ENDOCRINOLOGY  
 LASSARRE C, 1994, V134, P1254, ENDOCRINOLOGY  
 MOHLER KM, 1994, V370, P218, NATURE  
 MOSS ML, 1997, V385, P733, NATURE  
 MURPHY G, 1989, V258, P463, BIOCHEM J  
 MURPHY G, 1995, V248, P470, METHOD ENZYMOL  
 NAM TJ, 1996, V137, P5530, ENDOCRINOLOGY  
 PARKER A, 1995, V136, P2470, ENDOCRINOLOGY  
 PARKER KC, 1983, V22, P1145, BIOCHEMISTRY-US  
 SHANNON JD, 1989, V264, P11575, J BIOL CHEM  
 SUKKARI AM, 1992, V74, P177, J CLIN ENDOCR METAB  
 THRAILKILL KM, 1995, V136, P3527, ENDOCRINOLOGY  
 VETTRAINO IM, 1996, V17, P557, PLACENTA  
 WILLENBROCK F, 1993, V32, P4330, BIOCHEMISTRY-US  
 WOLFSBERG TG, 1996, V180, P389, DEV BIOL  
 ZAPF J, 1995, V132, P645, EUR J ENDOCRINOL

7/9/9 (Item 4 from file: 34)

DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

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06258010 Genuine Article#: YE823 Number of References: 47

Title: Purification and characterization of a 39,000-Da serine  
 proteinase from the hemolymph of a solitary ascidian, *Halocynthia*  
*roretzi*

Author(s): Shishikura F (REPRINT) ; Abe T; Ohtake SI; Tanaka K

Corporate Source: NIHON UNIV, SCH MED, DEPT BIOL, ITABASHI KU, 30-1

OHYAGUCHI KAMIMACHI/TOKYO 173/JAPAN/ (REPRINT)

Journal: COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY B-BIOCHEMISTRY & MOLECULAR  
 BIOLOGY , 1997, V118, N1 (SEP), P131-141

ISSN: 0305-0491 Publication date: 19970900

Publisher: PERGAMON-ELSEVIER SCIENCE LTD, THE BOULEVARD, LANGFORD LANE,  
 KIDLINGTON, OXFORD, ENGLAND OX5 1GB

Language: English Document Type: ARTICLE

Geographic Location: JAPAN

Subfile: CC LIFE--Current Contents, Life Sciences

Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY

Abstract: A new endogenous serine proteinase from the cell-free hemolymph  
 of a solitary ascidian, *Halocynthia roretzi*, was purified by a  
 combination of ammonium sulfate fractionation, hydrophobic interaction  
 chromatography on TSKgel Toyopearl HW 65 F, ion exchange chromatography  
 on TSKgel DEAE-Toyopearl 650 M, affinity chromatography on  
 Arginine-Sepharose 4B, gel filtration on TSKgel Toyopearl HW 65F and

hydroxyapatite chromatography on Bio-Gel HT. The serine proteinase is a single polypeptide chain whose molecular weight and isoelectric point are 39 kDa and about 7.6 pI, respectively. The most susceptible substrate was Boc-Leu-Gly-Arg-4-methyl-coumaryl-7-amide (MCA), and activity was optimal at pH 8. The enzyme was relatively stable at high temperatures; about 50% activity was retained even at 60 degrees C for 30 min in 50 mM Tris-HCl, pH 8.0, containing 0.5 M NaCl, and 0.05% Brij-35. The enzyme was characterized by the inhibitory effects of synthetic or natural inhibitors, substrate specificity toward 26 peptidyl-MCAs, proteinase activity toward natural proteins and complex formation with a serine proteinase inhibitor (58 kDa) previously found in *H. roretzi* hemolymph, indicating that the enzyme was a member of serine proteinases and strongly inhibited by the 58 kDa serine proteinase inhibitor as well as human antithrombin III. We also demonstrated the clotting enzyme activity of the purified serine proteinase toward bovine fibrinogen and *Limulus* coagulogen, a fibrinogen-like clottable protein of horseshoe crabs. (C) 1997 Elsevier Science Inc.

Descriptors--Author Keywords: Ascidian ; fibrinogen ; fluorogenic substrates ; *Halocynthia roretzi* ; hemolymph *Limulus* coagulogen ; serine proteinase ; serpin

Identifiers--KeyWord Plus(R): GALACTOSE-SPECIFIC LECTIN; POLYACRYLAMIDE GELS; DETECTING PROTEINS; SILVER STAIN; HEMOCYTES; INHIBITORS; HEMAGGLUTININ; PEPTIDASES; BINDING

Research Fronts: 95-3190 002 (INCREASED ABUNDANCE OF SPECIFIC SKELETAL-MUSCLE PROTEIN-TYROSINE PHOSPHATASES; ALPHA-B-CRYSTALLIN EXPRESSION)

95-2948 001 (PROTEASE INHIBITORS; INTERACTIONS OF SERINE PROTEINASES; PLASMA KALLIKREIN; PHAGE DISPLAY)

95-6938 001 (PLASMINOGEN-ACTIVATOR INHIBITOR-1; SERPIN REACTIVE LOOP; IDENTIFICATION OF PIGMENT EPITHELIUM-DERIVED FACTOR; SERINE PROTEINASES; CLEAVED FORM)

#### Cited References:

- AKITA N, 1995, V20, P81, CELL STRUCT FUNCT
- ARLAUD G, 1994, V244, P61, METHOD ENZYMOL
- AZUMI K, 1991, V15, P9, DEV COMP IMMUNOL
- AZUMI K, 1996, V13, P365, ZOOL SCI
- BARKER PE, 1981, V208, P74, J CHROMATOGR
- BARRETT AJ, 1994, V244, P1, METHOD ENZYMOL
- BAUER K, 1995, P1239, WILLIAMS HEMATOLOGY
- BERRILL NJ, 1955, ORIGIN VERTEBRATES
- BRADFORD MM, 1976, V72, P248, ANAL BIOCHEM
- FRANCIS CW, 1995, P1252, WILLIAMS HEMATOLOGY
- FUKE MT, 1972, V143, P140, BIOL BULL
- FURIE B, 1995, P1566, HEMATOLOGY BASIC PR
- HARADAAZUMI K, 1987, V88, P375, COMP BIOCHEM PHYS B
- HENSCHEN A, 1986, P171, BLOOD COAGULATION
- IWANAGA S, 1979, V2, P147, KININS
- KATO H, 1980, V88, P183, J BIOCHEM-TOKYO
- KAWABATA S, 1988, V172, P17, EUR J BIOCHEM
- KUMAZAKI T, 1990, V107, P409, J BIOCHEM-TOKYO
- LAEMMLI UK, 1970, V227, P680, NATURE
- LASKOWSKI M, 1980, V49, P593, ANN REV BIOCH
- LEVIN J, 1979, P131, BIOMEDICAL APPLICATI
- LEVIN J, 1968, V19, P186, THROMB DIATH HAEMO
- LIJNEN HR, 1995, P1588, HEMATOLOGY BASIC PR
- LOTTENBERG R, 1981, V80, P341, METHOD ENZYMOL
- MANN KG, 1995, P1206, WILLIAMS HEMATOLOGY
- MIYATA T, 1984, V259, P8924, J BIOL CHEM
- MORITA T, 1977, V82, P1495, J BIOCH
- NAKAMURA S, 1976, V72, P902, BIOCHEM BIOPH RES CO
- NAKAMURA S, 1976, V80, P569, J BIOCH
- NAKAMURA S, 1977, V81, P1567, J BIOCH
- OAKLEY BR, 1980, V105, P361, ANAL BIOCHEM
- PANCER Z, 1995, V111, P625, COMP BIOCHEM PHYS B
- RAWLINGS ND, 1994, V244, P19, METHOD ENZYMOL
- SCHECHTER I, 1967, V27, P157, BIOCHEM BIOPH RES CO
- SHISHIKURA F, 1979, P185, BIOMEDICAL APPL HORS
- SHISHIKURA F, 1996, V114, P1, COMP BIOCHEM PHYS B
- SHISHIKURA F, 1983, V94, P1279, J BIOCHEM-TOKYO

Journal Subject Category: RHEUMATOLOGY

Research Fronts: 86-0192 001 (TUMOR NECROSIS FACTOR; CHARACTERIZATION OF  
HIGH-AFFINITY MEMBRANE-RECEPTORS; INTERFERON-GAMMA ENHANCES EXPRESSION  
OF CELLULAR RECEPTORS)  
86-1365 001 (PURIFIED RECOMBINANT MURINE INTERLEUKIN-1; CULTURED  
HUMAN-ENDOTHELIAL CELLS; INVIVO MODEL OF T CELL-DEPENDENT FIBROSIS)  
86-1621 001 (ISOTRETINOIN TERATOGENICITY; CRYSTAL DEPOSITION DISEASE;  
ETRETINATE THERAPY; FREE FATTY-ACIDS; ROTATOR CUFF)  
86-6545 001 (MACROPHAGE ACTIVATION; GUINEA-PIG MACROPHAGES; MURINE  
PERITONEAL-MACROPHAGES; HUMAN-MONOCYTES TUMORICIDAL ACTIVITY; BACTERIAL  
LIPOPOLYSACCHARIDE)  
86-8399 001 (PLASMINOGEN ACTIVATORS; SECRETED PLASMINOGEN  
-ACTIVATOR; INVITRO STIMULATION OF RAT SERTOLI CELLS; PLASMA PROTEINASE  
ACTIVITY)

Cited References:

BENYA PD, 1977, V16, P865, BIOCHEMISTRY-US  
BOYUM A, 1968, V21, P77, SCAND J CLIN LAB S97  
BURTON K, 1956, V62, P315, BIOCHEM J  
CAWSTON TE, 1979, V99, P340, ANAL BIOCHEM  
CHENG PT, 1981, V8, P772, J RHEUMATOL  
CHEUNG HS, 1981, V24, P1338, ARTHRITIS RHEUM  
CHEUNG HS, 1984, V27, P668, ARTHRITIS RHEUM  
CHEUNG HS, 1983, V173, P181, P SOC EXP BIOL MED  
DAYER JM, 1984, V14, P898, EUR J IMMUNOL  
DAYER JM, 1981, V124, P253, FEBS LETT  
DAYER JM, 1979, V64, P1386, J CLIN INVEST  
DAYER JM, 1986, V77, P645, J CLIN INVEST  
DAYER JM, 1985, V162, P2163, J EXP MED  
DIEPPE PA, 1976, V1, P266, LANCET  
EVEQUOZ V, 1984, V219, P667, BIOCHEM J  
EVEQUOZ V, 1984, V14, P490, EUR J IMMUNOL  
FONTANA A, 1982, V2, P49, RHEUMATOL INT  
GRYNPAS MD, 1984, V19, P723, J MATER SCI  
HALVERSON PB, 1982, V41, P527, ANN RHEUM DIS  
HALVERSON PB, 1979, V22, P389, ARTHRITIS RHEUM  
HASSELBACHER P, 1982, V100, P977, J LAB CLIN MED  
JASIN HE, 1981, V68, P571, J CLIN INVEST  
JOHNSONWINT B, 1980, V104, P175, ANAL BIOCHEM  
KLUG HP, 1974, P677, XRAY PROCEDURES POLY  
MANCONI PE, 1979, V9, P99, SCAND J IMMUNOL  
MCCARTY DJ, 1962, V56, P711, ANN INTERN MED  
MCCARTY DJ, 1985, P1494, ARTHRITIS ALLIED CON  
MCGUIREGOLDRING MB, 1984, V27, P654, ARTHRITIS RHEUM  
MIZEL SB, 1981, V78, P2474, P NATL ACAD SCI USA  
POSTLETHWAITE AE, 1983, V157, P801, J EXP MED  
POUBELLE P, 1985, V12, P412, J RHEUMATOL  
PREUDHOMME JL, 1974, V113, P1650, J IMMUNOL  
RUFF MR, 1981, V2, P235, LYMPHOKINE REPORTS  
SCHUMACHER HR, 1983, V42, P54, ANN RHEUM DIS  
SCHUMACHER HR, 1975, V18, P783, ARTHRITIS RHEUM  
UNKELESS JC, 1974, V139, P834, J EXP MED  
VASSAULT A, 1983, V2, P118, METHODS ENZYMATI AN  
WEINBERG JB, 1978, V121, P72, J IMMUNOL  
WOOD DD, 1983, V26, P975, ARTHRITIS RHEUM

? ds

| Set | Items     | Description                              |
|-----|-----------|--|
| S1  | 78554     | (KRINGLE? OR PLASMINOGEN) OR ANGIOSTATIN |
| S2  | 2713819   | PURIF? OR ISOLAT? OR SEPARAT?            |
| S3  | 61        | "EXPANDED BED"                           |
| S4  | 19678     | HYDROXYAPATITE                           |
| S5  | 2         | S3 AND S4                                |
| S6  | 9953      | S2 AND S1                                |
| S7  | 15        | S6 AND S4                                |
| ? s | pastoris  |  |
| S8  | 4850      | PASTORIS                                 |
| ? s | s1 and s8 |  |
|     | 78554     | S1                                       |
|     | 4850      | S8                                       |
| S9  | 102       | S1 AND S8                                |

? s s9 and s2  
102 S9  
2713819 S2  
S10 50 S9 AND S2  
? s py<=1999  
Processing  
Processing  
Processing  
Processing  
S1131531237 PY<=1999  
? s s11 and s10  
31531237 S11  
50 S10  
S12 34 S11 AND S10  
? type s12/free/all

12/8/1 (Item 1 from file: 5)  
12101266 BIOSIS NO.: 199900396115  
Enhancement through mutagenesis of the binding of the isolated  
kringle 2 domain of human plasminogen to omega-amino acid  
ligands and to an internal sequence of a Streptococcal surface protein.  
1999

12/8/2 (Item 2 from file: 5)  
11661312 BIOSIS NO.: 199800443043  
A refined kinetic analysis of plasminogen activation by recombinant  
bovine tissue-type plasminogen activator indicates two  
interconvertible activator forms.  
1998


12/8/3 (Item 3 from file: 5)  
11306780 BIOSIS NO.: 199800088112  
Binding of urokinase-type plasminogen activator-plasminogen  
activator inhibitor-1 complex to the endocytosis receptors  
alpha2-macroglobulin receptor/low-density lipoprotein receptor-related  
protein and very-low-density lipoprotein receptor involves basic residues  
in the inhibitor.  
1998

12/8/4 (Item 4 from file: 5)  
11191915 BIOSIS NO.: 199799813060  
Characterization of the acidic oligosaccharides assembled on the Pichia  
pastoris-expressed recombinant kringle 2 domain of human  
tissue-type plasminogen activator.  
1997

12/8/5 (Item 5 from file: 5)  
11018193 BIOSIS NO.: 199799639338  
Role of tryptophan-63 of the Kringle 2 domain of tissue-type  
plasminogen activator in its thermal stability, folding, and ligand  
binding properties.  
1997

12/8/6 (Item 6 from file: 5)  
10787398 BIOSIS NO.: 199799408543  
High-level secretion in Pichia pastoris and biochemical  
characterization of the recombinant kringle 2 domain of tissue-type  
plasminogen activator.  
1997

12/8/7 (Item 7 from file: 5)  
10668170 BIOSIS NO.: 199799289315  
Secretory production of recombinant urokinase-type plasminogen  
activator-annexin V chimeras in Pichia pastoris.



1996

12/8/8 (Item 8 from file: 5)  
10440061 BIOSIS NO.: 199699061206  
Secretion of a variant of human single-chain urokinase-type plasminogen activator without an N-glycosylation site in the methylotrophic yeast, *Pichia pastoris* and characterization of the secreted product.  
1996

12/8/9 (Item 9 from file: 5)  
10059546 BIOSIS NO.: 199598514464  
Production and characterization of recombinant human proteinase inhibitor 6 expressed in *Pichia pastoris*.  
1995

12/8/10 (Item 1 from file: 34)  
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.  
08281310 Genuine Article#: 265WL Number of References: 61  
Title: Glycosylation of *Pichia pastoris*-derived proteins (ABSTRACT AVAILABLE)  
Publication date: 19991200  
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOTECHNOLOGY & APPLIED MICROBIOLOGY  
Identifiers--KeyWord Plus(R): RECOMBINANT KRINGLE-2 DOMAIN; ACID ALPHA-MANNOSIDASE; HIGH-LEVEL EXPRESSION; METHYLOTROPHIC YEAST; PLASMINOGEN-ACTIVATOR; SACCHAROMYCES-CEREVISIAE; SECRETION; PURIFICATION; ENZYME; OLIGOSACCHARIDES

12/8/11 (Item 2 from file: 34)  
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.  
08022193 Genuine Article#: 237PG Number of References: 136  
Title: The yeast expression system for recombinant glycosyltransferases (ABSTRACT AVAILABLE)  
Publication date: 19990200  
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY  
Descriptors--Author Keywords: *saccharomyces cerevisiae*; *Pichia pastoris*; beta 1,4galactosyltransferase; alpha 2,6sialyltransferase; alpha 2,3sialyltransferase; alpha 1,3fucosyltransferase; alpha 1,2mannosyltransferase; glycosylation engineering  
Identifiers--KeyWord Plus(R): HIGH-LEVEL EXPRESSION; HUMAN BETA-1,4 GALACTOSYLTRANSFERASE; TISSUE PLASMINOGEN-ACTIVATOR; FUCOSYL-TRANSFERASE GENES; SACCHAROMYCES-CEREVISIAE; PICHIA-PASTORIS; METHYLOTROPHIC YEAST; HUMAN BETA-1,4-GALACTOSYLTRANSFERASE; N-ACETYLGLUCOSAMINE; ENZYMATIC-SYNTHESIS

12/8/12 (Item 3 from file: 34)  
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.  
07916761 Genuine Article#: 223YD Number of References: 55  
Title: Enhancement through mutagenesis of the binding of the isolated Kringle 2 domain of human plasminogen to omega-amino acid ligands and to an internal sequence of a Streptococcal surface protein (ABSTRACT AVAILABLE)  
Publication date: 19990806  
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY  
Identifiers--KeyWord Plus(R): EPSILON-AMINOHEXANOIC ACID; HIGH-AFFINITY BINDING; RECOMBINANT KRINGLE-1; PICHIA-PASTORIS; THERMAL-STABILITY; ACTIVATOR INHIBITOR-1; AMINOCAPROIC ACID; ESCHERICHIA-COLI; SITE; EXPRESSION

12/8/13 (Item 4 from file: 34)  
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

07681975 Genuine Article#: 196AV Number of References: 16  
Title: Disruption of the KEX1 gene in *Pichia pastoris* allows  
expression of full-length murine and human endostatin (ABSTRACT  
AVAILABLE)  
Publication date: 19990500  
Journal Subject Category: MICROBIOLOGY; BIOTECHNOLOGY & APPLIED  
MICROBIOLOGY; MYCOLOGY; BIOCHEMISTRY & MOLECULAR BIOLOGY  
Descriptors--Author Keywords: *Pichia pastoris*; KEX1 disruption;  
endostatin  
Identifiers--KeyWord Plus(R): HIGH-LEVEL SECRETION;  
SACCHAROMYCES-CEREVISIAE; YEAST; CARBOXYPEPTIDASE; ANGIOGENESIS;  
ANGIOSTATIN; INHIBITOR; GROWTH

12/8/14 (Item 5 from file: 34)  
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

07230495 Genuine Article#: 139FC Number of References: 13  
Title: Zinc-binding of endostatin is essential for its antiangiogenic  
activity (ABSTRACT AVAILABLE)  
Publication date: 19981109  
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOPHYSICS  
Identifiers--KeyWord Plus(R): HUMAN GROWTH-HORMONE; ANGIOGENESIS;  
ANGIOSTATIN; INHIBITOR; PROTEINS; ENZYMES

12/8/15 (Item 6 from file: 34)  
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

06326083 Genuine Article#: YJ709 Number of References: 64  
Title: Expression, purification and inhibitory properties of human  
proteinase inhibitor 8 (ABSTRACT AVAILABLE)  
Publication date: 19971202  
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY  
Identifiers--KeyWord Plus(R): CELL CARCINOMA ANTIGEN; REACTIVE-BOND LOOP;  
SIGNAL SEQUENCE; ALPHA-1-PROTEINASE INHIBITOR; KINETIC  
CHARACTERIZATION; NEUTROPHIL ELASTASE; TARGET PROTEINASES; SUBSTRATE  
REACTION; CHICKEN OVALBUMIN; MOLECULAR-CLONING  
Research Fronts: 95-6938 002 (PLASMINOGEN-ACTIVATOR INHIBITOR-1;  
SERPIN REACTIVE LOOP; IDENTIFICATION OF PIGMENT EPITHELIUM-DERIVED  
FACTOR; SERINE PROTEINASES; CLEAVED FORM)  
95-2948 001 (PROTEASE INHIBITORS; INTERACTIONS OF SERINE PROTEINASES;  
PLASMA KALLIKREIN; PHAGE DISPLAY)  
95-3190 001 (INCREASED ABUNDANCE OF SPECIFIC SKELETAL-MUSCLE  
PROTEIN-TYROSINE PHOSPHATASES; ALPHA-B-CRYSTALLIN EXPRESSION)  
95-4110 001 (INHIBITION OF TRYPSIN; SERINE PROTEINASES; IMMOBILIZED  
CHYMOTRYPSIN IN ORGANIC MEDIA)  
95-8683 001 (IRREVERSIBLE INHIBITORS OF CYSTEINE PROTEINASES; ENZYME  
DENATURATION; ISOCITRATE LYASE)

12/8/16 (Item 7 from file: 34)  
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06203619 Genuine Article#: YB472 Number of References: 15  
Title: Characterization of the acidic oligosaccharides assembled on the  
*Pichia pastoris*-expressed recombinant kringle 2 domain of  
human tissue-type plasminogen activator (ABSTRACT AVAILABLE)  
Publication date: 19971000  
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOTECHNOLOGY &  
APPLIED MICROBIOLOGY  
Identifiers--KeyWord Plus(R): N-LINKED OLIGOSACCHARIDES;  
SACCHAROMYCES-CEREVISIAE; METHYLOTROPHIC YEAST; BIOSYNTHESIS; MUTANTS;  
MANNAN



12/8/17 (Item 8 from file: 34)  
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

05976571 Genuine Article#: XL512 Number of References: 25  
Title: The amino-terminal region of amyloid precursor protein is responsible for neurite outgrowth in rat neocortical explant culture (ABSTRACT AVAILABLE)  
Publication date: 19970709  
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOPHYSICS  
Identifiers--KeyWord Plus(R): ALZHEIMERS-DISEASE; PICHIA-PASTORIS; SECRETED FORMS; CELL-SURFACE; BRAIN; PEPTIDES; LOCALIZATION; PURIFICATION; PLASMINOGEN; EXPRESSION  
Research Fronts: 95-1202 004 (ALZHEIMERS-DISEASE BETA-A4 AMYLOID PRECURSOR PROTEIN; PROCESSING PATHWAY; AMINO-TERMINAL DELETIONS ENHANCE AGGREGATION)

12/8/18 (Item 9 from file: 34)  
DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

05925013 Genuine Article#: XG901 Number of References: 73  
Title: Role of tryptophan-63 of the kringle 2 domain of tissue-type plasminogen activator in its thermal stability, folding, and ligand binding properties (ABSTRACT AVAILABLE)  
Publication date: 19970624  
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY  
Identifiers--KeyWord Plus(R): AMINO ACID LIGANDS; RECOMBINANT KRINGLE -1; ESCHERICHIA-COLI; HUMAN APOLIPOPROTEIN(A); EXPRESSION; PURIFICATION; SITE; FIBRIN; IDENTIFICATION; PLASMA  
Research Fronts: 95-2098 003 (LIPOYL DOMAIN; 3-DIMENSIONAL NMR; PEPTIDE FOLD; PROTON NUCLEAR-MAGNETIC-RESONANCE SPECTROSCOPY; FUSION PROTEIN; PYRUVATE-DEHYDROGENASE COMPLEX)  
95-1231 001 (PLASMA LIPOPROTEIN(A) LEVELS; APOLIPOPROTEIN(A) GENE; CORONARY ATHEROSCLEROSIS)  
95-4462 001 (TISSUE-TYPE PLASMINOGEN-ACTIVATOR; PROTEASE INHIBITORS IN STAPHYLOKINASE-INDUCED FIBRIN-SPECIFIC FIBRINOLYSIS; TYPICAL EXAMPLE OF DOMAIN EVOLUTION)

12/8/19 (Item 10 from file: 34)  
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05543841 Genuine Article#: WF463 Number of References: 48  
Title: High-level secretion in Pichia pastoris and biochemical characterization of the recombinant kringle 2 domain of tissue-type plasminogen activator (ABSTRACT AVAILABLE)  
Publication date: 19970200  
Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOTECHNOLOGY & APPLIED MICROBIOLOGY  
Identifiers--KeyWord Plus(R): OMEGA-AMINO ACIDS; HUMAN <GLU1> PLASMINOGEN; NATIVE PLASMINOGEN; BINDING-PROPERTIES; THERMAL-STABILITY; N-GLYCOSYLATION; EXPRESSION; FIBRIN; SITE; PURIFICATION  
Research Fronts: 95-1231 001 (PLASMA LIPOPROTEIN(A) LEVELS; APOLIPOPROTEIN(A) GENE; CORONARY ATHEROSCLEROSIS)  
95-3098 001 (HEPATOCYTE GROWTH-FACTOR; CMET RECEPTOR EXPRESSION IN THE PROMYELOCYTIC HL-60 CELL-LINE; HETEROZYGOSITY OF C-MET PROTOONCOGENE)  
95-3190 001 (INCREASED ABUNDANCE OF SPECIFIC SKELETAL-MUSCLE PROTEIN-TYROSINE PHOSPHATASES; ALPHA-B-CRYSTALLIN EXPRESSION)  
95-4462 001 (TISSUE-TYPE PLASMINOGEN-ACTIVATOR; PROTEASE INHIBITORS IN STAPHYLOKINASE-INDUCED FIBRIN-SPECIFIC FIBRINOLYSIS; TYPICAL EXAMPLE OF DOMAIN EVOLUTION)

12/8/20 (Item 11 from file: 34)  
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05346256 Genuine Article#: VR644 Number of References: 33  
Title: SECRETORY PRODUCTION OF RECOMBINANT UROKINASE-TYPE PLASMINOGEN ACTIVATOR-ANNEXIN V-CHIMERAS IN PICHIA-PASTORIS (Abstract

Available)

Journal Subject Category: GENETICS & HEREDITY

Descriptors--Author Keywords: METHYLOTROPHIC YEAST ; THROMBOLYTIC AGENT ;  
FUSION PROTEIN ; HYBRID PROTEIN ; CHIMERIC PROTEIN ; SECRETORY  
EXPRESSION

Identifiers--KeyWords Plus: PLACENTAL ANTICOAGULANT PROTEIN; POLY ACRYLAMIDE  
GELS; EXPRESSION; CLONING; GENE; CDNA; PROUROKINASE; EXPOSURE; BINDING

Research Fronts: 94-3070 002 (RAT SKELETAL-MUSCLE; DEVELOPMENTAL

REGULATION; YEAST SACCHAROMYCES-CEREVISIAE)

94-4806 001 (GENE ORGANIZATION; LONG-CHAIN FATTY-ACID TRANSPORT;  
TRANSCRIPTION FACTOR)

12/8/21 (Item 12 from file: 34)

DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

05212772 Genuine Article#: VJ203 Number of References: 33

Title: THE 5TH EPIDERMAL GROWTH-FACTOR-LIKE DOMAIN OF THROMBOMODULIN DOES  
NOT HAVE AN EPIDERMAL GROWTH-FACTOR-LIKE DISULFIDE BONDING PATTERN (   
Abstract Available)

Journal Subject Category: MULTIDISCIPLINARY SCIENCES

Descriptors--Author Keywords: PROTEIN C ; THROMBIN ; PICHIA PASTORIS  
; YEAST EXPRESSION ; TRIS(2-CARBOXYETHYL)PHOSPHINE

Identifiers--KeyWords Plus: EGF-LIKE DOMAIN; PLASMINOGEN-ACTIVATOR;

ENERGY MINIMIZATION; NMR-SPECTROSCOPY; FACTOR PRECURSOR; FACTOR-ALPHA;  
FACTOR-IX; FACTOR-X; COAGULATION; RESOLUTION

12/8/22 (Item 13 from file: 34)

DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

04873563 Genuine Article#: UN557 Number of References: 32

Title: PRODUCTION AND PURIFICATION OF HUMAN FIBROBLAST COLLAGENASE  
(MMP-1) EXPRESSED IN THE METHYLOTROPHIC YEAST PICHIA-PASTORIS (   
Abstract Available)

Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOMETHODS

Identifiers--KeyWords Plus: ALCOHOL OXIDASE GENES; MATRIX

METALLOPROTEINASES; SECONDARY STRUCTURE; CATALYTIC DOMAIN; CYSTEINE  
SWITCH; STROMELYSIN; PROCOLLAGENASE; SPECIFICITY; ACTIVATION; SECRETION

Research Fronts: 94-0971 004 (MATRIX METALLOPROTEINASE EXPRESSION; TISSUE

INHIBITOR; 92-KD TYPE-IV COLLAGENASE ACTIVITY; CULTURED VASCULAR  
SMOOTH-MUSCLE CELLS; PLASMINOGEN ACTIVATION)

12/8/23 (Item 14 from file: 34)

DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

04861561 Genuine Article#: UN062 Number of References: 48

Title: SECRETION OF A VARIANT OF HUMAN SINGLE-CHAIN UROKINASE-TYPE  
PLASMINOGEN-ACTIVATOR WITHOUT AN N-GLYCOSYLATION SITE IN THE  
METHYLOTROPHIC YEAST, PICHIA-PASTORIS AND CHARACTERIZATION OF THE  
SECRETED PRODUCT (Abstract Available)

Journal Subject Category: BIOTECHNOLOGY & APPLIED MICROBIOLOGY;  
BIOCHEMISTRY & MOLECULAR BIOLOGY

Descriptors--Author Keywords: PICHIA PASTORIS ; SINGLE-CHAIN

UROKINASE-TYPE PLASMINOGEN ACTIVATOR ; MUCOR RENNIN PREPEPTIDE ;  
PROTEOLYSIS ; SECRETION

Identifiers--KeyWords Plus: HIGH-LEVEL EXPRESSION;

SACCHAROMYCES-CEREVISIAE; PRO-UROKINASE; HUMAN PREPROUROKINASE; SIGNAL  
SEQUENCE; MUCOR-PUSILLUS; GROWTH-FACTOR; GENE; PROTEINS; INVERTASE

Research Fronts: 94-3070 002 (RAT SKELETAL-MUSCLE; DEVELOPMENTAL

REGULATION; YEAST SACCHAROMYCES-CEREVISIAE)

94-4806 001 (GENE ORGANIZATION; LONG-CHAIN FATTY-ACID TRANSPORT;  
TRANSCRIPTION FACTOR)

12/8/24 (Item 15 from file: 34)

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04361766 Genuine Article#: RY470 Number of References: 23

Title: PRODUCTION AND CHARACTERIZATION OF RECOMBINANT HUMAN  
PROTEINASE-INHIBITOR-6 EXPRESSED IN PICHIA-PASTORIS (Abstract  
Available)

Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOPHYSICS  
Descriptors--Author Keywords: PROTEINASE INHIBITOR 6 ; PLACENTAL THROMBIN  
INHIBITOR ; SERINE PROTEINASE INHIBITOR ; SERPIN ; GENE EXPRESSION ;  
(P-PASTORIS)

Identifiers--KeyWords Plus: SITE

Research Fronts: 93-3088 001 (RAT MUSCLE; PROTEIN PHOSPHATASE-1; MAJOR  
GLUTATHIONE TRANSFERASE)

93-4847 001 (HETEROLOGOUS EXPRESSION; CHROMOSOMAL DNA; GENE ENCODING  
METHYLMALONYL-COENZYME-A MUTASE)

12/8/25 (Item 16 from file: 34)

DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

04212237 Genuine Article#: RN594 Number of References: 30

Title: EXPRESSION, PURIFICATION, AND NEUROTROPHIC ACTIVITY OF AMYLOID  
PRECURSOR PROTEIN-SECRETED FORMS PRODUCED BY YEAST (Abstract Available  
)

Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOPHYSICS

Identifiers--KeyWords Plus: ENHANCES NEURITE OUTGROWTH; ALZHEIMERS-DISEASE;  
INHIBITOR DOMAIN; EXPLANT CULTURES; PICHIA-PASTORIS; RAT-BRAIN;  
NEXIN-II; BETA; LOCALIZATION; PLASMINOGEN

Research Fronts: 93-0099 008 (BETA-AMYLOID PRECURSOR PROTEIN; FAMILIAL  
ALZHEIMERS-DISEASE; PC12 CELLS RELEASE STIMULATORY FACTORS)

12/8/26 (Item 17 from file: 34)

DIALOG(R)File 34:(c) 2003 Inst for Sci Info. All rts. reserv.

00085150 Genuine Article#: CL615 Number of References: 30

Title: EXPRESSION OF HUMAN PLASMINOGEN-ACTIVATOR INHIBITOR TYPE-1  
(PAI-1) IN ESCHERICHIA-COLI AS A SOLUBLE-PROTEIN COMPRISED OF ACTIVE  
AND LATENT FORMS - ISOLATION AND CRYSTALLIZATION OF LATENT PAI-1

Journal Subject Category: BIOCHEMISTRY & MOLECULAR BIOLOGY; BIOPHYSICS

Research Fronts: 88-2115 003 (ALPHA-1-ANTITRYPSIN DEFICIENCY; ELASTASE  
INHIBITOR; HIGH-RESOLUTION CT; LUNG EMPHYSEMA)

88-3343 002 (PLASMINOGEN-ACTIVATOR INHIBITOR; FIBRIN-SPECIFIC  
THROMBOLYTIC AGENTS; IMPAIRED FIBRINOLYSIS IN CORONARY-ARTERY DISEASE)

88-1470 001 (AMINO-ACID SEQUENCE; AVIAN LYMPHOMATOSIS VIRUS; ATP  
SYNTHASE; MULTIGENE FAMILY; MITOCHONDRIAL TRANSCRIPTION)

88-7331 001 (RECOMBINANT ESCHERICHIA-COLI; HIGH-LEVEL EXPRESSION;  
HETEROLOGOUS PROTEINS IN METHYLOTROPHIC YEAST PICHIA-PASTORIS)

12/8/27 (Item 1 from file: 71)

01366267 2000040784

Construction, cloning and expression of cystein enriched human  
microurokinase

12/8/28 (Item 2 from file: 71)

01210561 1999185218

Enhancement through mutagenesis of the binding of the isolated  
kringle 2 domain of human plasminogen to omega-amino acid  
ligands and to an internal sequence of a Streptococcal surface protein

PUBLICATION DATE: August 6, 1999

12/8/29 (Item 3 from file: 71)

00779708 1998010609

Binding of urokinase-type plasminogen activator-plasminogen  
activator inhibitor-1 complex to the endocytosis receptors alpha<sub>2</sub>macroglobulin receptor/low-density lipoprotein receptor-related protein  
and very-low-density lipoprotein receptor involves basic residues in the  
inhibitor

PUBLICATION DATE: January 1, 1998

12/8/30 (Item 4 from file: 71)  
00722169 97227529  
Characterization of the acidic oligosaccharides assembled on the Pichia  
pastoris-expressed recombinant kringle 2 domain of human  
tissue-type plasminogen activator  
PUBLICATION DATE: 19970000

12/8/31 (Item 5 from file: 71)  
00644279 97151041  
Role of tryptophan-63 of the kringle 2 domain of tissue-type  
plasminogen activator in its thermal stability, folding, and ligand  
binding properties  
PUBLICATION DATE: 19970000

12/8/32 (Item 6 from file: 71)  
00545300 97045376  
High-level secretion in Pichia pastoris and biochemical  
characterization of the recombinant kringle 2 domain of tissue-type  
plasminogen activator  
PUBLICATION DATE: 19970000

12/8/33 (Item 7 from file: 71)  
00471867 96165822  
Secretory production of recombinant urokinase-type plasminogen  
activator-annexin V chimeras in Pichia pastoris  
PUBLICATION DATE: 19960000

12/8/34 (Item 8 from file: 71)  
00311154 95130739  
Production and characterization of recombinant human proteinase inhibitor 6  
expressed in Pichia pastoris  
PUBLICATION DATE: 19950000  
? ds

Set Items Description  
S1 78554 (KRINGLE? OR PLASMINOGEN) OR ANGIOSTATIN  
S2 2713819 PURIF? OR ISOLAT? OR SEPARAT?  
S3 61 "EXPANDED BED"  
S4 19678 HYDROXYAPATITE  
S5 2 S3 AND S4  
S6 9953 S2 AND S1  
S7 15 S6 AND S4  
S8 4850 PASTORIS  
S9 102 S1 AND S8  
S10 50 S9 AND S2  
S11 31531237 PY<=1999  
S12 34 S11 AND S10  
? s s3 and s2  
61 S3  
2713819 S2  
S13 34 S3 AND S2  
? s s13 and s11  
34 S13  
31531237 S11  
S14 16 S13 AND S11  
? type s14/free/all

14/8/1 (Item 1 from file: 5)  
11824762 BIOSIS NO.: 199900070871  
Protein adsorption by very dense porous zirconium oxide particles in  
expanded beds.  
1998

14/8/2 (Item 1 from file: 34)

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08214563 Genuine Article#: 257WZ Number of References: 15

Title: Expanded bed adsorption on supermacroporous cross-linked cellulose matrix (ABSTRACT AVAILABLE)

Publication date: 19980000

Journal Subject Category: BIOCHEMICAL RESEARCH METHODS; BIOTECHNOLOGY & APPLIED MICROBIOLOGY

Descriptors--Author Keywords: column efficiency ; expanded bed ; lactate dehydrogenase ; macroporous adsorbent

Identifiers--KeyWord Plus(R): PERFUSION CHROMATOGRAPHY; PROTEIN SEPARATION; PARTICLES; PERFORMANCE; VELOCITY

14/8/3 (Item 2 from file: 34)

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08214553 Genuine Article#: 257WZ Number of References: 14

Title: Physical and biochemical characterization of a simple intermediate between fluidized and expanded bed contactors (ABSTRACT AVAILABLE)

Publication date: 19980000

Journal Subject Category: BIOCHEMICAL RESEARCH METHODS; BIOTECHNOLOGY & APPLIED MICROBIOLOGY

Descriptors--Author Keywords: expanded bed ; fluidized bed ; adsorption kinetics ; particulate feedstock ; protein adsorption

Identifiers--KeyWord Plus(R): PROTEINS; CHROMATOGRAPHY; PURIFICATION; AFFINITY

14/8/4 (Item 3 from file: 34)

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08214552 Genuine Article#: 257WZ Number of References: 18

Title: Factors affecting dispersion in expanded bed chromatography (ABSTRACT AVAILABLE)

Publication date: 19980000

Journal Subject Category: BIOCHEMICAL RESEARCH METHODS; BIOTECHNOLOGY & APPLIED MICROBIOLOGY

Descriptors--Author Keywords: dispersion ; expanded bed ; fluidized bed ; HETP ; residence time distribution

Identifiers--KeyWord Plus(R): ADSORPTION PERFORMANCE; OPERATING-CONDITIONS; PURIFICATION; BROTH

14/8/5 (Item 4 from file: 34)

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08184109 Genuine Article#: 255RL Number of References: 30

Title: Expanded bed protein A affinity chromatography of a recombinant humanized monoclonal antibody: process development, operation, and comparison with a packed bed method (ABSTRACT AVAILABLE)

Publication date: 19991008

Journal Subject Category: BIOTECHNOLOGY & APPLIED MICROBIOLOGY

Descriptors--Author Keywords: recombinant antibody ; preparative chromatography ; expanded bed

Identifiers--KeyWord Plus(R): MAMMALIAN-CELL CULTURE; SCALE RECOVERY; FAST FLOW; ADSORPTION; PURIFICATION; BINDING; BROTH; YEAST; IGG1; IMMUNOGLOBULINS

14/8/6 (Item 5 from file: 34)

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07840603 Genuine Article#: 214AA Number of References: 23

Title: Direct purification of lysozyme from hen egg white using high density mixed mode adsorbent (ABSTRACT AVAILABLE)

Publication date: 19990600

Journal Subject Category: BIOTECHNOLOGY & APPLIED MICROBIOLOGY; MICROBIOLOGY

Descriptors--Author Keywords: lysozyme ; hen egg white (HEW); mixed mode

adsorbent ; expanded bed

Identifiers--KeyWord Plus(R): EXPANDED-BED ADSORPTION; AMINO-ACID-SEQUENCE;  
HIGH FLOW-RATE; PROTEIN-PURIFICATION; CHROMATOGRAPHY;  
PRODUCTIVITY; SEPARATION; CONALBUMIN; RESOLUTION; COLUMN

14/8/7 (Item 6 from file: 34)

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07085749 Genuine Article#: 122TV Number of References: 35

Title: Expanded and packed bed albumin adsorption on fluoride modified  
zirconia (ABSTRACT AVAILABLE)

Publication date: 19981105

Journal Subject Category: BIOTECHNOLOGY & APPLIED MICROBIOLOGY

Descriptors--Author Keywords: fluoride-modified zirconia ; expanded bed  
; packed bed ; protein adsorption ; adsorption-desorption kinetics ;  
intraparticle diffusion

Identifiers--KeyWord Plus(R): GEL ANION-EXCHANGERS; PROTEIN ADSORPTION;  
MASS-TRANSFER; EXPANSION CHARACTERISTICS; FLUIDIZED-BEDS; SCALE  
RECOVERY; CHROMATOGRAPHY; PURIFICATION; PERFORMANCE; PARTICLES

14/8/8 (Item 7 from file: 34)

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06754553 Genuine Article#: ZP593 Number of References: 9

Title: Expanded-bed adsorption utilizing ion-exchange resin to purify  
extracellular beta-galactosidase (ABSTRACT AVAILABLE)

Publication date: 19980300

Journal Subject Category: BIOTECHNOLOGY & APPLIED MICROBIOLOGY;  
BIOCHEMISTRY & MOLECULAR BIOLOGY

Descriptors--Author Keywords: extracellular beta-galactosidase ; adsorption  
; expanded bed ; enzyme recovery

Identifiers--KeyWord Plus(R): PURIFICATION; RECOVERY; PROTEIN

14/8/9 (Item 8 from file: 34)

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05307693 Genuine Article#: VP550 Number of References: 15

Title: POLYMER-SHIELDED DYE-LIGAND CHROMATOGRAPHY OF LACTATE-DEHYDROGENASE  
FROM PORCINE MUSCLE IN AN EXPANDED BED SYSTEM (Abstract Available)

Journal Subject Category: BIOMETHODS; BIOTECHNOLOGY & APPLIED MICROBIOLOGY

Descriptors--Author Keywords: EXPANDED BED ; LDH PURIFICATION ;  
POLYMER SHIELDING

Identifiers--KeyWords Plus: AFFINITY CHROMATOGRAPHY; BLUE SEPHAROSE;  
BAKERS-YEAST; ADSORPTION; PURIFICATION; PROTEINS; RECOVERY;  
ELUTION

14/8/10 (Item 9 from file: 34)

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05203383 Genuine Article#: VG927 Number of References: 8

Title: LARGE-SCALE RECOVERY AND PURIFICATION OF PERIPLASMIC  
RECOMBINANT PROTEIN FROM ESCHERICHIA-COLI USING EXPANDED BED ADSORPTION  
CHROMATOGRAPHY FOLLOWED BY NEW ION-EXCHANGE MEDIA (Abstract Available)

Journal Subject Category: BIOTECHNOLOGY & APPLIED MICROBIOLOGY

Descriptors--Author Keywords: EXPANDED BED ; EXOTOXIN A ; CAPTURE ;  
CHROMATOGRAPHY

Identifiers--KeyWords Plus: AERUGINOSA EXOTOXIN-A; ESCHERICHIA-COLI

Research Fronts: 94-8153 001 (RECOMBINANT GENES IN ESCHERICHIA-COLI;  
PROTEIN-PROTEIN INTERACTIONS; DNA-BINDING DOMAINS; PACA SUBUNIT;  
TYROSINE PHOSPHORYLATION)

14/8/11 (Item 10 from file: 34)

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04411160 Genuine Article#: TB190 Number of References: 39